may safely be treated by open incision. The cases reported in the literature, expressing the opinions of many surgeons, demonstrate that the open method of treatment is satisfactory and a great advance upon generally accepted methods."

Fracture of the Metatarsal Bones by Indirect Violence.—LOISON (*Revue de Orthopédie,* September 1, 1900), after reviewing the symptomatology, diagnosis, and treatment of thirty-two cases, notes the following conclusions: (1) Complete or incomplete fractures of one or several of the metatarsal bones are much less rare than is generally believed. (2) The X-rays are of the greatest assistance in the diagnosis of incomplete fractures, in establishing the form and exact situation of the fragments, and also the extent of the injury in the complete and comminuted fractures. (3) Fractures of the metatarsal bones as the result of indirect violence are due to either one of two mechanical causes: exaggerated flexion in a vertical direction or in a transverse direction. In some cases these two causes may be combined, the causative traumatic force following an oblique direction.

A Study of the X-ray Plates of One Hundred and Forty Cases of Fracture of the Lower End of the Radius.—CODMAN (*Boston Medical and Surgical Journal,* September 27, 1900) states that Colles' fracture may be separated into ten distinct types, according to the lines of cleavage and the directions of the displacement. Class I. Fracture through the base of the styloid process of the radius. The fragment is displaced but little—generally upward and backward by the supinator longus. Four cases are included in this series. Class II. Fracture of the inner angle of the lower end of the radius. The fragment either remains in place or may be dislocated backward. This type includes three cases. Class III. Transverse fracture at or a little above the epiphyseal line (in adults) without displacement. This class includes sixteen cases. Class IV. The distal fragment is comminuted, either as a simple T-fracture or into several smaller pieces. The fragments are generally displaced posteriorly and radially, but part of them may go anteriorly. In the thirteen reported cases all were complicated by fracture of the styloid process of the ulna. Class V. Separation of the epiphysis of the lower end of the radius. The cases, seventeen in number, presented themselves with the fragments completely reduced, or else they had the typical silver-fork deformity. Class VI. Separation of the epiphysis of the lower end of the radius with a chip off the posterior surface of the diaphysis. This class includes ten cases. Class VII. Impaction of lower fragment into the shaft. Rare; only two of the 140 cases being found in this class. Class VIII. Typical Colles' fracture, which may be divided into two forms: That with marked radial displacement of the fragment and that in which the posterior deformity is more decided. These two deformities are usually combined to a greater or less extent. Of the 140 cases 64 are included in this class. Class IX. Stellate fracture of the lower end of the radius, with longitudinal fissures extending into the shaft. There is but slight deformity. This class includes six cases. Class X. Reversed Colles' fracture—that is, anterior displacement of the lower fragment. This is almost exactly the reverse of Class VIII., and five cases are included in this series. After describing the diagnosis and treatment of these various types of cases, Codman states in conclusion: (1) That true Colles' fracture formed but 46 per cent. of the 140 cases of fracture of the lower end of the radius. (2) That a knowledge of the position of the fragments is necessary for intelligent treatment. (3) That the application of padding and splints should vary according to the displacement shown in the skiagram. (4) That if the X-ray shows that marked deformity is still present after the splints have been applied, ether should be given and another energetic attempt at reduction made. (5) That concomitant fracture of the ulnar styloid occurred in at least 62 per cent. of the 140 cases, and if 39 cases in which this process was obscure in the skiagram are deducted, fracture occurred in 86 per cent. (6) That in Colles' fracture pressure over the anterior edge of the upper fragment should be avoided and cross traction should be used to correct the radial displacement of the lower fragment. (7) That statistics of the results of Colles' fracture are not of value unless the pathology of each case is determined by a skiagram.

The Treatment of Tuberculous and Purulent Joints with Large Glass-speculum Drainage and Pure Carbolic Acid, with a Report of Seventy Cases.—PHELPS (*New York Medical Journal*, September 15, 1900) states that the belief that interference with purulent or tuberculous foci will result in constitutional infection is not borne out by clinical observation, for he states that he has not only never seen it, but he does not believe that it ever occurs. There should be absolutely no difference between the treatment of abscesses of a joint and that of an abscess occurring in any portion of bone or in soft parts. As pure carbolic acid cannot be absorbed it is of interest to see how it reaches the bacteria that have found their way into the lymphatics remote from the joint. The explanation is founded on the theory that carbolic acid unites with the albumin of the tissues, forming an albuminoid or albuminate which is a powerful antiseptic. This new compound is absorbed into the lymphatics and destroys the bacteria. The method of application consists in exposing the abscess cavity by a free incision, then enlarging the opening into the capsule and explore the joint. If there is extensive bone disease the incision is lengthened and the capsule of the joint freely divided for one-half or two-thirds of its entire circumference, the head of the bone pulled out from the socket, the curette freely used, and the joint thoroughly irrigated with a 1 : 1000 bichloride solution. The joint is now filled with pure carbolic acid. It is allowed to remain one minute by the watch, after which the joint is thoroughly washed out with pure alcohol, and finally the alcohol is washed away with a 2 per cent. solution of carbolic acid. The largest size glass drainage-tube that the cavity will take is then introduced and is retained in place until granulations fill in from the bottom of the wound. The results have been uniformly good. Twenty of the seventy operations were excisions, and these patients were discharged from the hospital in an average of three weeks from the time of operation, wearing hip braces or using crutches.